No. 647,019. Patented Apr. 10, 1900.

A. H. MOSES.

INITIAL FLUID SUPPLY VALVE OR FAUCET FOR HYDROCARBON BURNERS.

(Application filed July 3, 1899.)

(No Model.)

Fig. 1.

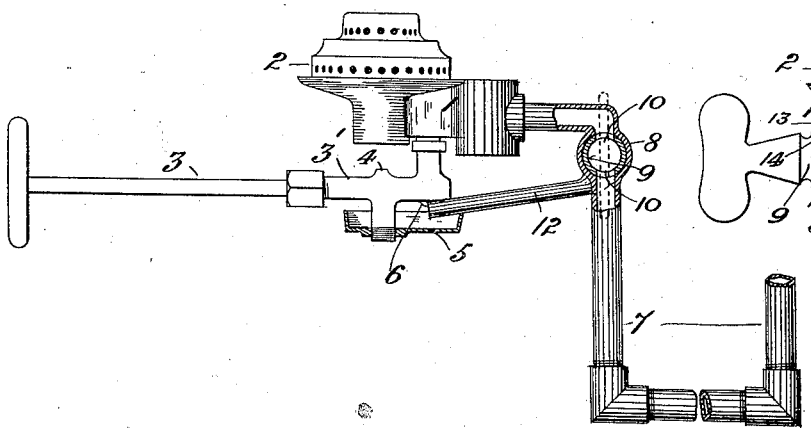


Fig. 2.

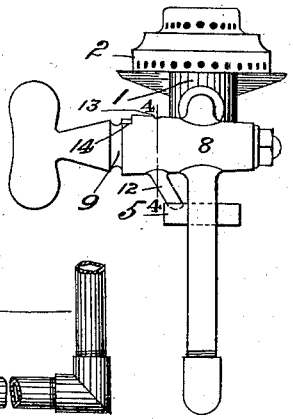


Fig. 3.

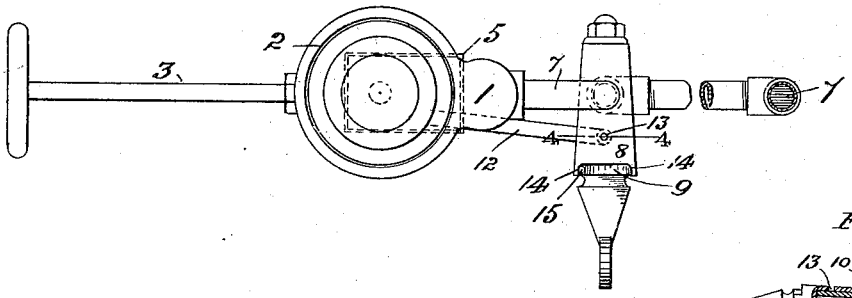


Fig. 4.

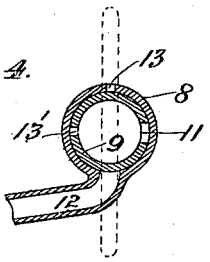


Fig. 6.

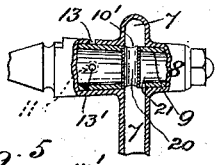
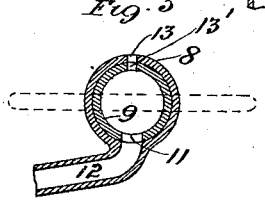


Fig. 5.



Witnesses
Edward W. Turrell
J. H. Kinnerly

Inventor
Alfred H. Moses
by
Emil Starek, atty

UNITED STATES PATENT OFFICE.

ALFRED H. MOSES, OF ST. LOUIS, MISSOURI, ASSIGNOR TO WILLIAM A. BALDWIN, OF SAME PLACE, AND SOL B. DAVEGA, OF NEW YORK, N. Y.

INITIAL-FLUID-SUPPLY VALVE OR FAUCET FOR HYDROCARBON-BURNERS.

SPECIFICATION forming part of Letters Patent No. 647,019, dated April 10, 1900.

Application filed July 3, 1899. Serial No. 722,720. (No model.)

To all whom it may concern:

Be it known that I, ALFRED H. MOSES, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Initial-Fluid-Supply Valves or Faucets for Hydrocarbon-Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in initial-fluid-supply valves or faucets for hydrocarbon-burners; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a burner, showing the new valve attachment in transverse section and the receptacle or basin also in section. Fig. 2 is an end view looking to the left of Fig. 1, the screw-valve being omitted. Fig. 3 is a top plan view of the device. Fig. 4 is an enlarged transverse section through the valve or faucet and its casing, taken on lines 4 4 of Figs. 2 and 3, the position of the valve being normal and corresponding to that shown in Fig. 1. Fig. 5 is a similar section showing the faucet turned to its discharging position or that which it assumes after being turned ninety degrees from its normal or feed position, and Fig. 6 is a middle vertical longitudinal section of a modification.

The object of my present invention is to provide any of the prevailing forms of hydrocarbon-burners with a valve or faucet which shall supply an initial quantity of the hydrocarbon to the burner in quantities which upon ignition shall heat the walls of the burner sufficiently to insure the lighting of the spray fed to the burner from the feed-valve leading thereto. The present device is specially applicable to gasolene-burners, where it is necessary to always introduce a small quantity of alcohol or gasolene into a basin designed for its reception and located immediately below the burner proper, said initial quantity being first ignited so as to thoroughly heat the walls of the burner before the regular stream of gasolene is turned on. Where this initial quantity of fluid is gasolene, the latter is generally admitted into the basin through the same feed-valve which supplies the burner with the spray of hydrocarbon from the main supply-tank, and it often happens that the dripping into the basin is allowed to accidentally continue until the gasolene overflows in abnormal quantities, endangering the ignition of the same and producing explosions at moments that are wholly unexpected. My present device contemplates the dispensing of certain predetermined quantities of the hydrocarbon into the basin referred to, at the same time preferably shutting off the main supply of gasolene to the burner, so that all danger of explosion is eliminated.

In detail the invention may be described as follows:

Referring to the drawings, 1 represents one of the prevailing forms of hollow castings, of which the burner 2 forms a part, the casting being provided with the usual screw feed-valve 3, the casing 3′ of which has formed therewith a teat 4, through which the spray of gasolene is forced directly into the burner. Located below the valve-casing 3′ is a basin or receptacle 5, which in the prevailing forms of burners received the initial drippings through a perforated teat 6 of the casing 3′, the spray-feed and the drippings being controlled by the same valve 3, and as long as the valve was unscrewed sufficiently to permit of any dripping into the basin 5 there was danger of an undue accumulation of hydrocarbon, from the ignition of which and any volatile constituents thereof and that of the spray particles an explosion was likely to result. With my present improvement to be now specifically described the feed-valve 3 need never be manipulated to the extent of turning on the drippings into the basin, but should be left in a position to merely allow the uninterrupted feeding of the spray.

7 represents the main supply-pipe leading to any storage-tank, (not shown,) there being interposed in the path of said pipe at a point adjacent to where the lower end thereof is coupled to the hollow casting 1 a valve-casing 8 of tapered form, the hollow valve 9 thereof being provided along its peripheral walls with two diametrically-opposite openings 10 10, adapted for one position of the

valve to establish free and uninterrupted communication between the feed-pipe and burner-casting 1. (See Fig. 1.) Formed also in the peripheral wall of the valve at a point removed from the transverse plane passing through the centers of the openings 10 10 and located toward the wider end of the valve and its casing and relatively at a point removed, preferably, ninety degrees from the longitudinal plane intersecting the centers of the openings 10 10 is a discharge-opening 11, adapted when the valve has been turned ninety degrees from its feed position to establish communication between the interior of the valve and the upper end of an inclined drain-tube 12, which taps the bottom of the valve-casing 8, the lower end thereof leading directly to the receptacle or basin 5. While the valve 9 is in its feed position the cavity or chamber thereof will fill with gasolene, which is subsequently discharged through the tube 12 into the basin 5, when the valve is turned ninety degrees from such feed position, the opening 11 under the circumstances coming opposite the upper end of said tube 12. (See Fig. 5.) At the same time the openings 10 10 will have been turned ninety degrees from the passage-way of the feed-pipe and the feed to the burner through said pipe will be cut off. Formed in the walls of the valve-casing and valve, respectively, and located ninety degrees apart are air-openings 13 13′, which while the valve is in its feed position are out of alinement, (see Fig. 4,) but which are brought into alinement for the discharge position of the valve, the discharge being facilitated (and, in fact, permitted) by allowing air to enter the valve in proportion as the contents thereof escape into the basin 5. (See Fig. 5.) In order to limit the extreme positions to which the valve 8 must be turned, I form at one end of the casing thereof a recess, against the terminal shoulders 14 14 of which a pin 15, carried by the valve, may impinge, thus limiting the rotation of the latter in either direction. This, however, is a common expedient and is not claimed herein.

The presence of the valve 8 insures perfect safety in the matter of lighting the burner. The operator can only supply to the basin 5 a fixed quantity of gasolene, sufficient when ignited to raise the temperature of the burner-walls to the proper degree. There is no waste, and while the contents of the valve-chamber are draining into the basin 5 the main supply from the tank is cut off entirely. There is thus no possibility of explosion. When the walls of the burner are once thoroughly heated, the valve 8 is then turned to its feed position, and the spray through the nipple or teat 4 is regulated by the screw-valve 3. The valve 8 is virtually a self-measuring faucet adapted to supply predetermined fixed quantities of the hydrocarbon for the purpose indicated.

It must not be understood that I limit the application of the present invention to gasolene-burners; but the same may be applied to hydrocarbon-burners generally. It is obvious, too, that the device is susceptible of various changes which may suggest themselves to a skilled mechanic without departing from the spirit of my invention.

After the faucet has been drained, as above indicated, and then returned to its feeding position it is obvious that more or less time will be consumed in the refilling of the chamber or cavity thereof (by the fluid flowing through the feed-pipe) before the fluid is conveyed to the burner. In order that the fluid under the circumstances may lose as little time as possible in reaching the burner, (now thoroughly heated by the ignition of the initial portion which was delivered to the basin 5,) I preferably use the modified form of faucet shown in Fig. 6, in which the feed-ports 10′ 10′ are connected by a tube 20, through which the fluid can directly flow, the chamber of the valve being filled leisurely through a port 21, located in the path of the pipe 7 for the feed position of the valve. In other respects the modification is the same as the faucet already described. The chamber of the modified form of faucet, while here shown as adapted to be filled through the port 21 from the pipe 7, could be filled from any other suitable source of supply by simply bringing or locating said port to communicate when in its feed position with a pipe leading from such source.

Having described my invention, what I claim is—

1. In a burner, a feed-pipe, means for controlling the feed of the fluid from said pipe to the burner, a receptacle located in proximity to the burner, and a hollow valve or faucet for conveying a fixed initial quantity of fluid to said receptacle, and simultaneously shutting off the main supply of fluid to the burner, substantially as set forth.

2. In a burner, a feed-pipe, a valve controlling the feed of the fluid from said pipe to the burner, a receptacle located in proximity to the burner, a hollow self-measuring valve or faucet having diametrically-opposite openings in the peripheral walls thereof establishing communication between the source of supply of the fluid and burner for one position of said valve, a drain-pipe leading from the valve-casing to the receptacle, an opening formed in the peripheral wall of the faucet and adapted to be brought into communication with the upper open end of the drain-pipe for another position of the faucet, the walls of the faucet and casing thereof having air-openings adapted to be brought into alinement or communication with one another for such second position of the said valve or faucet, and means for limiting the extreme positions of the valve, the parts operating substantially as and for the purpose set forth.

3. In a burner, a feed-pipe, means for controlling the feed of the fluid from said pipe to the burner, a receptacle located in proximity

to the burner, and a rotatable valve or faucet for conveying a fixed initial quantity of fluid to said receptacle, and simultaneously shutting off the main supply of fluid to the burner, substantially as set forth.

4. In a burner, a feed-pipe, means for controlling the feed of the fluid from said pipe to the burner, a receptacle located in proximity to the burner, and a valve or faucet for conveying a fixed initial quantity of fluid to said receptacle, and simultaneously shutting off the main supply of fluid to the burner, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALFD. H. MOSES.

Witnesses:
EMIL STAREK,
J. H. KENNERLY.